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No. 7

Lieut.-General J. F. TENNANT, R.E., C.I.E., F.R.S., President,
in the Chair.

Alfred Henry Fison, D.Sc., University College, London,
W.C.;

Thomas Gordon, F.R. Met. Soc., 9 Scotch Street, White-
haven;

George E. Hale, B.Sc., 4545, Drexel Boulevard, Chicago,
U.S.A.;

were ballotted for and duly elected Fellows of the Society.

The following candidate was proposed for election as a Fellow of the Society, the name of the proposer from personal knowledge being appended:—

Oliver Joseph Lodge, D.Sc., LL.D., F.R.S., Professor of
Physics, University College, Liverpool (proposed by G.
H. Darwin).

Seventy-seven presents were announced as having been received since the last meeting, including amongst others:—

E. Dunkin, *The Midnight Sky*: new edition, presented by the author; Leander McCormick Observatory publications, vol. i. part 5 (*Durchmusterung* -23°), presented by the Observatory; Harvard College Observatory, *Annals*, vols. xxiii. part 1, and xxvii. (*Observations with the Meridian Photometer*, 1882–88, and *The Draper Catalogue of Stellar Spectra*), presented by the Observatory; C. A. Young, *Lessons in Astronomy*, including *Uranometry*, presented by E. Arnold; Munich Obser-

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vatory, *Neue Annalen*, Band i., *Erstes Münchener Sternverzeichnis* von 33082 Sternen, presented by the Observatory ; Pulkowa Observatory, *Catalog von 5634 Sternen aus den Beobachtungen 1874-80*, presented by the Observatory ; Photograph of cluster in *Perseus*, made at the Lick Observatory, presented by E. S. Holden.

Further Experience regarding the Magnitude of Stars as obtained by Photography in the Oxford University Observatory. By the Rev. Professor C. Pritchard, D.D., F.R.S.

Notwithstanding all that passed at the recent meeting of the Paris Congress, doubt seems still to exist as to the photographic representation of the photometric magnitudes of the fainter stars, and of the time required for the impression of these faint stars on a photographic film. For instance, the experience of the Oxford Observatory, founded on the examination and discussion of some thirty-six plates, proves that the time necessary for photographing a star of the 11th magnitude, in a condition admitting of bisection and measurement, is on the very finest nights 200 seconds; whereas the experience of Greenwich, founded, it is believed, on the examination of a smaller number of plates, is that, under the same favourable atmospheric conditions, a star of the 11th magnitude may be photographed and subsequently measured after an exposure of only 96 seconds. Under less favourable meteorological conditions, it has been found necessary at Oxford, in order to photograph stars of the 11th magnitude, to prolong the exposure to 5 and even 8 minutes, while at Greenwich an exposure of 4 minutes is the longest contemplated.

I have considered it desirable to examine this question in still greater detail than in the paper which I communicated to the Paris Congress, and I may say that the general result has been to completely confirm the conclusions which I had previously obtained. The methods which I adopted have been two-fold. In the first place, I photographed a district, delineated in the charts of the late Professor Peters, with exposures of 3, 4, 6, 8, and 15 minutes. These charts were chosen because they give the configurations of a considerable number of reputed 11th magnitude stars, and therefore permitted an easy comparison. The result of the examination of the plates was as follows :

After 3 min. exposure, 31 per cent. of Peters' stars were photographed.

4	,	42	"	"	"
6	"	62	"	"	"
8	,	78	"	"	"